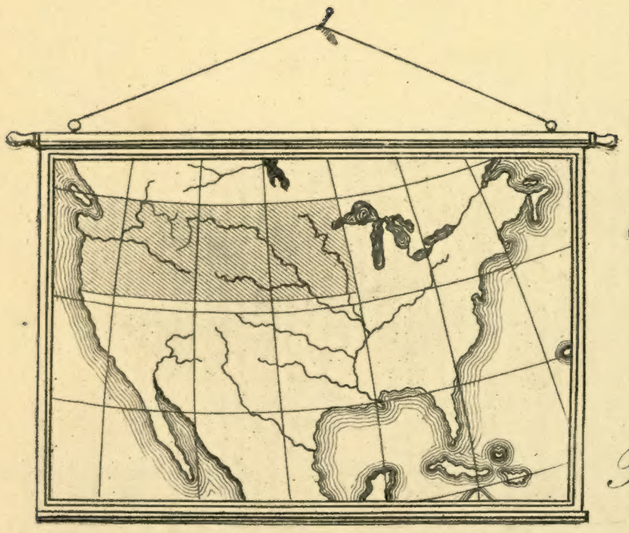
Rec Dec 18
Ans – 20



Northern Transcontinental Survey

Raphael Pumpelly, Director. Newport, R. I. Dec 14th 1882

Dr George Engelmann!

Dear Sir:

I send you a small package of plants collected in Washington Terr. which I would like you to name for me if convenient. Although I saw quantities of the Potamogeton(?) I could not find any in fruit or flower. You need not return the plants. Can you tell me where I could obtain your revision of the Coniferae.?

Very truly yours.

Frank Freed.

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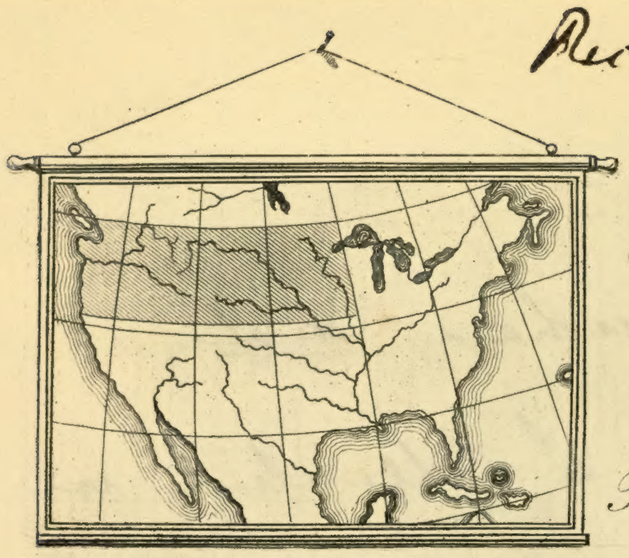
Rec Jan 8



Northern Transcontinental Survey

Raphael Pumpelly, Director.

Newport, R. I. Jan 7th 1883

Geo. Engelmann M.D.

Dear Sir:

Your favor of Dec 20th received. I wish to thank you very much for the "Revision of the Genus Pinus" which you sent me and the determination of the plants. The Echinocactus was collected on the summit of a barren hill (4000 ft elevation) 15 miles N.E. of Ellensburgh, Wash. Ter. and about 10 miles West of the Columbia R. Lat 47° 30' North. The country here is a dry timberless region principally covered with sage brush & bunch grass. I never saw the Echinocactus anywhere else but where I found although I have explored the country thoroughly to the Southward. It had evidently been in fruit for a long time and I only managed to pick up a few seeds which were

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still adhering to the plant. Mr Meehan did
send a few species of Cacti to you which I collected in
Texas in 1880. I should not be surprised if the
Echinocactus could be found more abundantly
North of where I collected it. The Opuntia is
not uncommon throughout Washington Terr.

Very truly yours.

Frank Tweedy.

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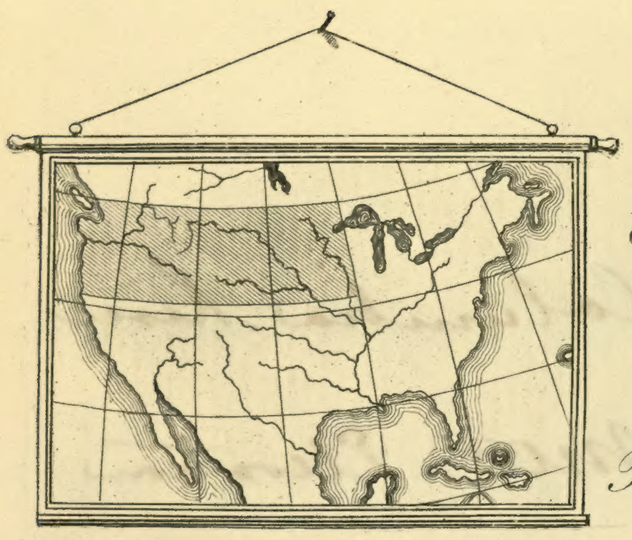
Rec Febr 6



Northern Transcontinental Survey

Raphael Pumpelly, Director. Newport, R. I. Feb 2nd 1883

Dr Geo Engelmann.

St Louis

Mo.

Dear Sir:

I am in doubt about a few species of Conifers I collected last season in Washington Territory. I send today by mail a small package of fragments which I should like to have your name if convenient.

Very truly yours.

Frank Tweedy.

(1) Juniperus ~~occidentalis~~ virginiana Hook. (?) Along Columbia River

(2) Abies concolor, Lindl. (?) Cascade Mts. Elevation of 5000 ft, and upward.

(3) Larix ~~Lyallii~~ occidentalis Parlat. (?) A small tree, 4000 ft.

(4) Picea Engelmannii (?) Cascade Mts,

(5) Abies nobilis Lindl. Only seen on summit of Cascade Mts at Satches Pass. Alt. 5500 ft

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Ans Feb 16th
Ans —18

Northern Transcontinental Survey

Raphael Pumpelly, Director. Newport, R. I. Feb 12th 1883

Dr. Geo. Engelmann

St Louis Mo.

Dear Sir:

Your favor of Feb 6th rec'd. Many thanks for your determinations. What is the distinction between Abies concolor, Lindl, and Abies amabilis? Are the enclosed specimens Abies concolor. and Pinus albicaulis or P. flexilis, James, var albicaulis? The Abies specimens are from a cone 4in. long and 2in. in diameter, I have no leaves. My observations in Wash. Terr, last season were limited entirely to the Eastern slope of the Cascade Mts. from lat 46° 30' to 47° 20'. The line where the sage brush ends and the timber appears is approximately between 30 & 40 miles from the summit. It is difficult to give any fixed altitude for the species as their range is determined by their distance from the summit as well as by

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their altitude, the amount of moisture depending principally on the former. Pinus Ponderosa, Dougl, and Pseudotsuga Douglasii, Carr, reach sometimes scale Libocedrus occidentalis, Endl, form the forests on the foothills and on dry slopes even up to 8000 ft. These forests often commence as low as 1500 ft, especially along the river valleys. As we approach the summit the forests are made up of Abies and Tsuga even at elevations as low as 2000 ft. Pseudotsuga Douglasii has a higher range than Pinus Ponderosa. Libocedrus occidentalis does not form any great part of the forests and is found at low altitudes generally in most situations. Pinus monticola, Dougl, and P. contorta, Dougl, on Mummy range together make exception that stunted growths of the latter are found with P. albicaulis on alpine summits. The highest points of the Cascade range here are from 6500 to 7500 ft; of course excepting Peaks like Mt Hood and Mt Rainier (14400). Tsuga Mertensiana Carr, and Tsuga Pattoniana appear together towards the summit, the latter extending

to a higher altitude. The Pinus ponderosa forests
are followed by those of mainly Abies. Abies
grandis, Lindl. first appearing then becoming mixed
with Abies concolor, Lindl and finally the former
disappearing and the latter forming the bulk
of the forests at the summit. Abies nobilis, Lindl
was only seen on the summit at Natches Pass
(5000 ft) lat 47°. only a few trees. Picea Engelmanni
appeared in the lower Abies forest but seemed to
be local in its range. Thuya gigantea Nutt, and
Chamaecyparis Nutkaensis Spach, were frequently
seen on the borders of lakes and in swamps at
low elevations, but the latter in a stunted condition
formed dense thickets on the summit near the
barrier at an elevation of 6500 ft. Taxus brevifolia
Nutt,
was scattered through the dense forests at low
elevations and was never seen 15 ft in height.

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Juniperus communis L. var alpina stand carpeted most of the alpine summits. The Juniperus Virginiana which I sent you was collected in the sage brush region on the bank of the Columbia River at Priests' Rapids lat 46° 30.

Only a few scattered trees were seen. I have also a specimen from the foothills of the Cascade Mts. The timber on the Eastern slope of the Cascade Mts, ~~is not~~, at least in the region described, is not large. I did not see a pine or Douglas Spruce over five ft, in diameter. XXX Thuya gigantea ~~was~~ the largest specimen seen me about ten ft, in diameter but not of any great height.

Very truly yours

Frank Tweedy.

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